MEMORANDUM TO THE FILE

FROM: [redacted]

23 August 1957 25X1A9A

SUBJECT: Investigation of Lack of Grid Drive on HT-4 Transmitters Operating from 18 to 20 Megacycles

On 21 August 1957, the writer visited the [redacted] Warehouse for the 25X1A6A purpose of technically evaluating the operation of HT-4 Transmitters on the extended range of 18 to 30 mcs. Due to insufficient grid drive to the final amplifier, while operating on these extended frequencies, many complaints have been received from the field. In an effort to arrive at a conclusion concerning the basic reason for this condition and analysis is being made to determine what has been done in the past and to correlate this information with new tests being conducted.

A technical evaluation of the tuning units TU-55 (18 to 24 mcs) and TU-55 (24 to 30 mcs) discloses improper design of the LC circuitry. TU-56 tuning units will seldom tune above 28 mcs, due to inherent stray capacitances present in the exciter leads and the LC ratio of the doubler coils. This condition also exists in the lower range units, TU-55, although not as acutely. It will be determined, as soon as possible, what tuning variations exist between various tuning units and transmitters and whether the tuning units can be simply redesigned to eliminate the necessity of "tailor-making" each unit.

On 22 August, the writer visited [redacted] to talk over 25X1A5A1 this problem. It was disclosed that this organization is aware of the problem through modification of the HT-4H for TMC PMO operation. They are of the opinion that a redesign of the tuning units plus a re-evaluation of the exciter circuitry is in order. We hope to have their Technical opinion within a few days and can then determine whether a simple modifications can be devised and carried out field-wise or etc.

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25X1 OC-E/SEB/EES/[redacted]:mlb/[redacted] (23 Aug 57)